

A NEW ALOE FROM LITTLE NAMAQUALAND.

(With Plates 4 and 5)

By G. W. REYNOLDS.

Aloe arenicola Reynolds. Species nova (Sect. *Mitriiformes*).

Planta succulenta, e basi ramosa, caules procumbentes 3—4 cm. diam., usque ad 1 met. longi. *Folia* circiter 20, subdense rosulata, lanceolato-attenuata, usque ad 18 cm. longa, 5 cm. lata; supra planiuscula, subtus convexa, utrinque caeruleo-viridia, copiose albo-maculata; ad margines dentibus parvis albis $\frac{1}{2}$ mm. longis 5—8 mm. distantibus instructa. *Inflorescentia* usque ad 50 cm. alta, simplex vel 1—2-ramosa. *Racemi* dense capitati, sub-corymbosi, 6 cm. longi, 9 cm. diam. *Bractee* 10 mm. longae, basi 3—4 mm. latae, scariosae, circiter 5-nervatae. *Pedicelli* 35 mm. longi. *Perigonium* rubrum, cylindricum levissime curvatum, saepe 40 mm. longum. *Segmenta exteriora* per 20 mm. libera, patula, obscure nervata; interiora libera, obtusiora, carinata, marginibus pallidioribus. *Genitalia* 3 mm. exserta. *Ovarium* 7 mm. longum, 3 mm. diam.

Hab. Cape Province, Little Namaqualand: Hondeklip Bay, Pillans 8368!, fl. Oct. 1924; Witbank near Orange River mouth, Pillans 5117!, fl. Oct. 1926; (in Bolus Herb. Kirstenbosch); in sand on the farm "Samson's Bak" 15 miles south of Kleinsee, Reynolds 2574! fl. 28 July 1937 (type), in National Herb. Pretoria, and in Bolus Herb. Kirstenbosch. [Plates 4 and 5.]

This new *Aloe* was first brought to my notice by Mr. P. van Heerde, Principal, Namaqualand High School, Springbok, who sent me plants collected at Hondeklip Bay, about 50 miles north-west of Garies and 75 miles south-west of Springbok, Little Namaqualand. Mr. van Heerde found plants at that locality in 1928, and writes concerning them: "There used to be large stretches of this *Aloe* from Hondeklip Bay to Kleinsee, but numbers have been destroyed by cattle, and especially sheep and goats. During the droughts the goats would practically live on these *Aloes* and would not require any water. When flocks were brought to waterholes, those which had grazed the *Aloes* would not go near the water."

During July, 1937, I made a special journey through the Richtersveld and Namaqualand with a view to investigating this and other *Aloe*

species, and visited Hondeklip Bay (via Soebatsfontein and Wallekraal), on 21 July. Plants were found about 5 miles from the sea, among low bushes in almost pure sand, but on that date none was in flower, only a few being in young bud. There was also evidence of a considerable number of plants having died out.

About 7 years ago Mr. Redmond Orpen found the same species near Kleinsee (between Hondeklip Bay and Port Nolloth) and I am indebted to him for kindly sending plants to Johannesburg. On 28 July 1937, I visited Kleinsee (which is about 65 miles west of Springbok, via Spek-takel and Grootmist). From there Mr. Orpen kindly conducted me about 15 miles south, to the farm "Samson's Bak," a few miles inland from the sea. At that locality, large quantities were found, many being in full bloom. Photographs were taken and a description written up on the spot.

Subsequently, however, I learnt that Mr. N. S. Pillans was the first to discover the species. He writes: "The Kleinsee plant extends from Hondeklip Bay, where I gathered flowering material in October, 1924 (Pillans 8368), to Witbank not far from the Orange River mouth, where I gathered flowering material (Pillans 5117) in October, 1926." Mr. Pillans has also suggested the name *A. arenicola*, which I am adopting, since the species is certainly an inhabitant of almost pure sandy places. It grows under almost rainless conditions, the chief source of moisture being the result of condensation from mist and fog, common to the Namaqualand coastal stretch of sandveld during certain periods of the year.

In the National Herbarium, Pretoria, there are photographs taken by Dr. I. B. Pole Evans in April, 1927, of plants (not flowering) near Lamberts Bay, west of Clanwilliam, which bear a very striking resemblance to the Kleinsee plant. Does *A. arenicola* extend so far south?

A. arenicola is allied to *A. mitriformis* Mill. and *A. distans* Haw. in the section *Mitriformes*; in diameter of rosettes it is smaller than the former and larger than the latter. Whereas both *A. mitriformis* and *A. distans* develop sprawling stems foliate for 1 met. and more, *A. arenicola* has only the terminal 20 cm. foliate, the stems being procumbent with the foliate portion erect or suberect whether supported by bushes or in exposed positions. Leaves are much smaller than in *A. mitriformis*, and comparatively longer and narrower than in *A. distans*; they are bluish-green and white-spotted on both sides, while the margins are finely notched or serrate rather than dentate. In character of leaf and rosette, *A. arenicola* seems fairly constant, but it varies considerably in shape and size of flowers. From a quantity of material gathered at random it was found that pedicels varied from 25 mm. to 50 mm. in



FIG. 1.

FIG. 2.

PLATE 4. *Aloe arenicola* Reynolds.

FIGS. 1—2. Plants in natural habitat, flowering 28 July 1937, on the farm "Samsons Bak," 15 miles south of Kleinsee, Little Namaqualand.

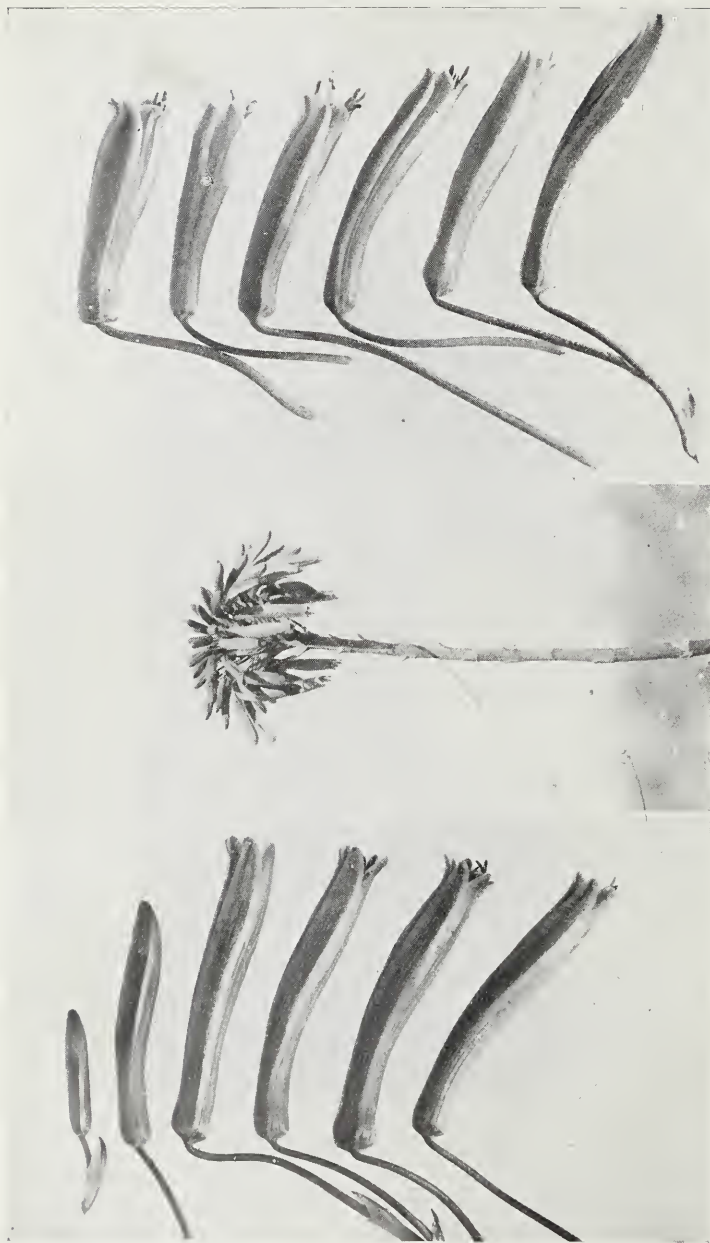


FIG. 1.

FIG. 2.

FIG. 3.

PLATE 5. *Aloe arenicola* Reynolds.

FIG. 1. Flowers natural size, from bud to post-pollination stage.

FIG. 2. Portion of peduncle with raceme, $\times \frac{1}{3}$ approx.

FIG. 3. Illustrating variation in shape and size of flowers, natural size.

length, and flowers from 35 mm. long (7 mm. diam. at base) to 46 mm. in length (5½ mm. diam. at base). It seems that the most typical form has pedicels 35 mm. long, and flowers 40 mm. long. Some of the forms are illustrated in the accompanying figure.

Racemes vary from corymbose to rounded, and are almost invariably broader than long. There is even greater variability in the structure of the outer segments of the perianth. In some flowers they were distinctly connate into a tube for half their length, but in others, they were tightly cohering (not adnate) to the inner segments for half their length, and could be freed to the base without tearing.

The following plants are at present in cultivation: In Garden of Bot. Section, Division of Plant Industry, Pretoria, No. 2999.7.37 *ex* Kleinsee, and No. 2988.7.37 *ex* Hondeklip Bay; in National Botanic Gardens, Kirstenbosch, No. 1220/37 *ex* Kleinsee.

Description:—*Plant* succulent with stems 3—4 cm. diam., simple or branched, up to 1 met. long, procumbent with the apical 20 cm. foliate and erect: stems sub-erect when supported by bushes, procumbent in open positions, with numerous off-shoots forming dense groups of erect rosettes. *Leaves* about 20 in a sub-dense rosette, lanceolate-attenuate, sheathing at base, up to 18 cm. long, 5.5 cm. broad near base; upper surface rather flat, slightly canaliculate towards apex; lower surface convex: both surfaces rather bluish-green with numerous irregularly scattered oblong white spots throughout, the spots sometimes slightly raised but hardly tuberculate; margins usually with a whitish horny edge, minutely serrate with teeth about ½ mm. long, 5—8 mm. distant. (*Note*.—In lower third, teeth are obsolete, the margins having a straight white horny edge; the middle third is somewhat serrate, while in upper third the teeth and horny edge are obsolete: apices of leaves usually terminate in a white spine.) *Inflorescence* up to 50 cm. high, simple or with one, occasionally two branches from about the middle. *Peduncle* flattened low down and about 2 cm. diam., with several ovate-acute 7—9-nerved sterile bracts below the racemes. *Racemes* densely capitate, usually rather corymbose, about 6 cm. long and 9 cm. diam. *Bracts* lowest 10 mm. long, 3—4 mm. broad at base, thin scarious about 5-nerved. *Pedicels* mostly 35 mm. long, sometimes reaching 50 mm. in length. *Perianth* frequently 40 mm. long, nearest Peach Red (R.C.S. I) turning paler at mouth, rather cylindrical or sometimes very slightly clavate, slightly curved. *Outer segments* free for 20 mm. from apex, the lower 20 mm. sometimes tightly cohering to the inner segments, or sometimes connate into a tube very obscurely nerved, the nerves greenish at apex, apices sub-acute, slightly spreading. *Inner segments* free but cohering to the outer for half their length, white with thin edges, with a

keel the colour of the perianth for its greater length turning greenish at apex, apices more obtuse more spreading than the outer. *Filaments* flattened, pale lemon throughout. *Anthers* exerted up to 3 mm. *Stigma* at length exerted 3 mm. *Ovary* 7 mm. long, 3 mm. diam. at base, slightly tapering into the style.
